

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY

Voluntary Public

Date: 11/25/2014

GAIN Report Number: BR0951

Brazil

Post: Brasilia

Advances in Agricultural Infrastructure in the North of Brazil

Report Categories:

CSSF Activity Evaluation

Agricultural Situation

Trip Report

Approved By:

Robert K. Hoff, Agricultural Counselor

Prepared By:

Robert K. Hoff, Agricultural Counselor,

Laura J. Geller, Agricultural Attaché

Priscila Ming, Agricultural Specialist

Report Highlights:

From May through September 2014, FAS Brasilia staff visited six of Brazil's nine states which make up "Amazonia Legal," a political-administrative region situated in the northern half of Brazil. The objective of these visits was to gain a better understanding of the impact of public and private sector investments in agricultural production and port and transportation infrastructure vital for advancing Brazilian agriculture. As these investments move forward, they will heighten Brazilian agricultural competitiveness.

Introduction

From May through September 2014, FAS Brasilia staff visited six of Brazil's nine states which make up "Amazonia Legal", a political-administrative region in the Amazon biome, situated in the northern half of Brazil. The objective of these visits was to gain a better understanding of the impact of public and private sector investments on agricultural production and port and transportation infrastructure vital for advancing Brazilian agriculture. Mission-oriented travel took FAS to the states of Acre, Amapá, Amazonas, Mato Grosso, Pará and Roraima where staff met with federal and state government officials, agricultural leaders, and representatives of Brazilian and multinational agribusiness. FAS visited ports and grain terminals located on major rivers and traveled on key federal highways that connect the Center-West agricultural heartland to strategically located export platforms in the North. When fully operational, infrastructural improvements will allow Brazilian growers to accrue major transport cost savings, will heighten Brazilian agricultural competitiveness, and will stimulate greater agricultural production, especially of soybeans.



Context

Brazil's "Amazonia Legal" encompasses 5 million square kilometers or roughly 60 percent of Brazil's total land mass. It is home to 24 million Brazilians (13 percent of the total population) among whom are included 170 different indigenous groups. It abounds in natural resources and is universally recognized for its biodiversity.

Environmentally fragile, an estimated 19 percent of its tropical forests has been cut down. Its socio-economic indicators, which are well below the Brazilian average, make this one of the poorest regions in Brazil.¹

Part of “Amazonia Legal” is located in or relatively close to the Brazilian agricultural heartland, which is dominated by Mato Grosso state. For 2013/2014, close to 32 million tons of soybeans were produced in “Amazonia Legal” and seven of the nine states are soybean producers.² For 2013/2014, total planted area

Soybean Production in “Amazonia Legal”

Brazilian States	2012/13	2013/14	2012/13	2013/14	2012/13	2013/14
	Area (1,000 ha)	Area (1,000 ha)	Production (1,000 MT)	Production (1,000 MT)	Yield (MT/Ha)	Yield (MT/Ha)
Mato Grosso (MT)	7,818	8,616	23,533	26,442	3.01	3.07
Tocantins (TO)	549	748	1,536	2,059	2.80	2.75
Maranhão (MA)	586	662	1,686	1,824	2.88	2.76
Pará (PA)	172	221	552	669	3.21	3.03
Roraima (RR)	12	18	33	56	2.75	3.11
Rondônia (RO)	168	191	539	608	3.21	3.18
Total Amazonia Legal*	9,305	10,456	27,879	31,658	2.98	2.98
Total Brazilian Production	27,736	30,173	81,499	86,121	2.93	2.85
% of Total Brazilian Production from Amazonia Legal*	34%	35%	34%	37%	-	-

*Amazonia Legal includes the states of MT, TO, MA, PA, RR, and RO

Source: National Company of Food and Supply (CONAB)

Brazil Soybean Exports by Port (1,000 MT)

Ports	2012/13*	2013/14*
Santarem (PA)	873	997
Ilheus (BA)	38	71
Port of Salvador (BA)	1,721	1,779
Port of Sao Luis (MA)	2,751	2,975
Port of Manaus (AM)	1,298	1,291
Total Exports from North and Northeast	6,681	7,113
Total Exports in Brazil	31,868	43,930
% of Total Brazilian Exports from North and Northeast	21%	16%

*Marketing Year (February-January)

Source: Secretariat of Foreign Trade (SECEX), of the Ministry of Development, Industry and Foreign Trade (MDIC)

was close to 10.5 million hectares (ha) or about 35 percent of Brazil’s total. Much of this production needs to be trucked over 1,900 kilometers to the southeastern ports of Santos, Sao Paulo state and Paranagua, Parana state so it can be exported there, given the inadequate infrastructure in the North. However, efforts to address this situation on the part of the Brazilian government (GOB) and private sector investors have made headway,

and solutions which will enable growers in this area to export soybeans from ports much closer to production areas are starting to come together.

Over the years, the expansion of the agricultural frontier into “Amazonia Legal” has led to environmental degradation, especially via the penetration of livestock and logging operations. At the behest of Brazilian civil society and national and international non-governmental organizations (NGO), GOB environmental policy, especially since 2005, has undergone significant changes to address deforestation, which spiked during the previous four years. Via the creation of conservation units in some of the most deforested parts of the Amazon biome, the enactment of agreements which have obliged traders to commit to purchasing soybeans from growers who can prove that their product has not been grown on deforested land, and punitive fiscal policy, deforestation rates have, overall, dropped significantly.³ As the relatively new Forest Code⁴, which defines land usage, is implemented, GOB authorities, growers, and civil society have the expectation that this legislation will be one of the key features of GOB policy which will permanently address deforestation in the Amazon biome.

Embrapa Ocidental, Manaus, Amazonas State

FAS Brasilia staff began its travel by visiting the Brazilian Agricultural Research Corporation (Embrapa) research station outside of Manaus, the capital of Amazonas (AM) to learn about agricultural production and potential in the Amazon biome. AM, located in the northwestern corner of the country, is Brazil’s largest state by area (over 606,000 square miles) but has the lowest population density of all 26 Brazilian states (total population just below 4 million).

Embrapa, which is linked to the Ministry of Agriculture, Livestock and Food Supply (MAPA), is renowned internationally for its top-flight scientists and has formally been a close partner of USDA’s Agricultural Research



Service since the late 1980s. Embrapa Ocidental, one of the first Embrapa units (there are 47 Embrapa research units located throughout Brazil), was established in 1974. It has 275 employees, 35 percent of whom are from AM. Embrapa Ocidental scientists have focused their research on areas in which AM has comparative advantages such as rubber, manioc, guaraná fruit, and fish farming. Embrapa Ocidental leadership underlined that its scientists are committed

to finding sustainable solutions to food production, and strongly support the promotion of sound agricultural practices in recognition of the fragile environmental context.

For example, Embrapa scientists have developed a rubber variety resistant to South American Leaf Blight (“*Micro Cyclus ulei*”), which decimated the Hevea rubber tree plantations in the twentieth century. Yields are on a par with latex extracted from rubber trees in Sao Paulo state, Brazil’s biggest rubber producing area. The new technology is in high demand in Brazil; in AM alone, there is a yearly demand of 5,000 tons with current production of only 1,000 tons. Another example of Embrapa Ocidental research is fish production, especially of the “Tambaqui” (“*Colossoma macropomum*”), a freshwater species of serra salmid whose demand, driven by the strong growth of the free trade zone in has greatly increased. As with many agricultural and food products, given the in supply of “Tambaqui,” it, along with food products, is imported into AM.

One of the principal “takeaways” from the to Embrapa Ocidental is that there exist constraints to production agriculture in AM other parts of the Amazone biome. Even there is strong demand in AM for vegetables, fruits, fish and other sources of demand outstrips locally developed supply products must be imported – even which are indigenous to AM. Another of this reticence relates to palm oil. Per Ocidental scientists, in the 1980s, the biome was identified as the best place to African palm trees for the production of (“dende”) oil. An estimated 30 million ha potentially go into the production of African the Amazon biome together with some the Brazilian Northeast. Given the sensitivity of this and other agricultural production issues especially related to the biome, the growth of this industry has been



Agricultural Counselor Bob Hoff (2nd from right) with Embrapa scientists



Embrapa Ocidental research station

Manaus,
shortfall
many

FAS visit
political
and
though

protein,
and
products
example
Embrapa
Amazon
grow
palm
can
palm in
areas of

Amazon
limited.

Boas Vista, Roraima State

FAS Brasilia staff next visited Boa Vista, the capital of Brazil’s northernmost state, Roraima (RR). RR borders the states of Amazonas (in the west and south) and Para (in the southeast) as well as Venezuela (in the north), and Guyana (in the east). It has Brazil’s smallest population – around 470,000 inhabitants – and occupies over

224,000 square kilometers (km). It enjoys a high degree of biodiversity due to the existence of large expanses of tropical forest and savanna (“cerrado”). It has one of the largest indigenous reserves in the world – “Raposa Serra do Sol” – located on 1.73 million ha with a perimeter of 1,000 km. 54 percent of the land in RR is constituted of indigenous reserves and national parks. During the visit, FAS met with local growers, state government officials from the planning and development agency, and Embrapa scientists.

RR is one of Brazil’s youngest states (it gained statehood in 1988) but per local authorities, it is clearly on the move. State government officials emphasize that RR’s social indicators are some of the best in the North. For example, 80 percent of the residents of Boa Vista enjoy water and sanitation services and RR has one federal public university and 4 private ones.

Far removed from Brazil’s populous Center–South, RR began to be colonized in the 1980s with the arrival of 30,000 small growers from the Brazilian Northeast. Upland rice began to be planted during this time. Other agricultural commodities that are now grown include soybeans and a variety of fruits (e.g., mango, melon, acerola, banana, etc.). RR is north of the Equator so its growing seasons are “inverted” compared to most of the rest of Brazil.



RR is constituted of 17 percent tropical savanna (“cerrado”) and 83 percent tropical forest. There are over 1 million ha of tropical savanna that can be potentially cultivated. At the time of the visit, Embrapa estimated that 20,000-25,000 ha would be planted to soybeans in 2014. State government authorities forecast that in 2015, planted area to soybeans will increase to 50,000 ha. Growers point to soybeans as the commodity which has the greatest potential to expand in RR. Yields are already on a par with the Center-West – about 3 tons per ha. Growers expect that as the soybean frontier expands, it will open the way to the cultivation of cotton, sunflowers, and corn. To support this effort, Embrapa scientists are focusing their research on soybeans as well as rice, peanuts, sorghum and manioc.

Soybeans are typically planted from May 5 to June 5 and harvested in September. Prospects for a second crop (“safrinha”) are limited since rains end by the beginning of September. Other limitations pointed out by Embrapa are the high cost of inputs, and the dearth of organic material in the soil. On the positive side, the tropical savanna in RR has fewer trees than the tropical savanna which abounds in the Center-West and it takes less lime to correct the soil. In addition, the tropical savanna is readily accessible since it runs along the Brazilian federal highway BR-174.

With regard to access to major markets, Boa Vista is 781 kilometers from Manaus via BR- 174 from which soybeans can be exported and 231 kilometers from the Venezuelan border (Santa Helena de Uairen). Via BR-401, one can arrive to the border with Guyana (Bonfim-Lethem), which is 121 kilometers from Boa Vista. Between the border and Guyana's capital – Georgetown – there are another 522 kilometers. officials envision Guyana, in addition to representing a significant market, as a potential export platform. RR is focusing its efforts tapping markets to the



Federal University of Roraima

State officials are campaigning to recruit farmers from Mato Grosso and other parts of the Center-West to take advantage of the available land and exploit the agricultural potential of RR. As these officials noted to FAS, agribusiness is the best business opportunity in RR and many outsiders are coming to RR to buy land. To exemplify the allure of RR, FAS staff met a group of Americans who had come to RR to farm soybeans. On the other side of the ledger, local growers assert that land title issues have slowed down the agricultural expansion.

Other agricultural products that have potential include tropical fruit such as acai, which is being produced by 20,000 small growers and is being purchased by a major multinational beverage enterprise. Fish farming is also an important enterprise in RR, especially in light of the expansion of the soybean frontier which will lower the cost of feed for this industry. Currently, the bulk of fish production is sold to Amazonas (AM) state.

Para State

FAS Brasilia staff continued its visit in the state of Para (PA), which is contiguous with the states of Roraima, Amazonas, Mato Grosso, Tocantins, Maranhao, Amapa. The northern reaches of PA border Guyana and Suriname. PA is Brazil's



visit in
and
and

second biggest state in terms of area (1.253 million square kilometers) and has the largest population (about 7.8 million inhabitants) of all states which constitute the North of Brazil. PA has 144 municipalities, one of which is the biggest in the world. It is a state whose economy is driven by services, mining, and agribusiness (e.g., cattle ranching, logging, etc.). Distances in PA are great and infrastructure is lacking. Many of its residents live in the capital, Belem, located on the Para River (part of the Amazon River system), about 140 kilometers upriver from the Atlantic Ocean.

Port of Santarem, PA

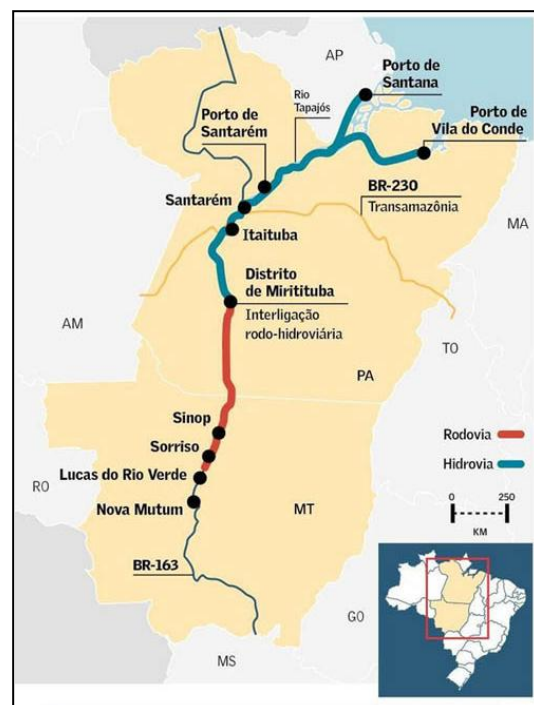
The port of Santarem is located on the eastern bank of the Tapajos River close to its confluence with the Amazon River. It was inaugurated in 1974 and is administered by the Port Authority of Para (“Companhia das Docas do Para” - CDP). U.S. multinational Cargill has invested in a grain terminal, which was built in 2002. It currently has an export capacity of 2 million tons but Cargill is investing in capacity expansion so that it reaches 5 million tons. Soybeans principally are exported from Santarem with the bulk of them grown in Mato Grosso (MT) state. Soybeans from MT are first trucked to Porto Velho, Rondonia where Cargill operates a port. Product is loaded onto barges and is transported to Santarem via the Madeira and Amazon Rivers. Once in Santarem, product is reloaded onto going vessels and exported. In addition to its investment in port expansion, Cargill has invested in community of Santarem. It has financed the construction of a public library and sponsored a feeding program, among its various projects of social corporate responsibility.



Cargill private port in Santarem

ocean
the

Santarem is the terminus of federal highway BR-163. highway, which is almost completely paved, connects Santarem with MT, Brazil’s main soybean production. At the time of the FAS visit to Cargill, a portion of BR-163, located above the state line between MT and PA, had been paved. Once BR-163 is fully operational, transportation costs of soybeans grown in MT and exported from Santarem will be around 30 percent compared to the cost of shipping product out of the southeastern ports of Santos, Sao Paulo state, and Paranagua, Parana state. Completion of this highway, construction began in the 1970s, has given impetus to expansion of soybean production on degraded pasture northern MT and southern PA.



Map of BR163 (source: Valor Economico)

This
region.
163,
not

lower

whose
the
land in

Port of Miritituba, PA

Miritituba is located on the eastern bank of Tapajos River about 860 kilometers to the south of Santarem and close to the intersection of BR-163 and the Trans-Amazon Highway, BR-230. Situated on the west bank and 3,000 meters across the river from Miritituba is Itaituba, the seat of the municipality of Itaituba. The draft of the Tapajos River is 9-10 meters during the dry season.

Brazilian and foreign-based companies have invested in port and terminal infrastructure Miritituba. The concept is to truck soybeans from growing areas along BR-163 to Miritituba. From there, the soybeans are loaded onto barges and proceed north to ports in PA such as Santarem or Vila do Conde, or to the port of Santana in Amapa (AP). From these ports, product is loaded

the

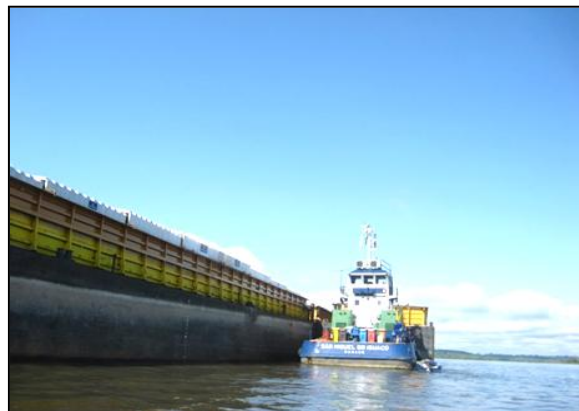


in

Map of Itaituba/Miritituba and Tapajos Rive (blue) and BR-163 (red)

onto ocean-going vessels and exported.

In Miritituba and Santana, AP, FAS interviewed representatives of



Clockwise from top left: Town of Miritituba; CIANPORT building site (Bunge port in background); Bunge loading facility from the river; barge shipping soybeans

Northern Navigations and Ports Company (CIANPORT) concerning how investments in Miritituba and adjoining areas will enhance Brazil's competitiveness in agriculture. CIANPORT is an investment shared by AGROSOJA and FIAGRIL, which are Brazilian enterprises (FIAGRIL has its headquarters in Lucas do Rio Verde, MT). CIANPORT has acquired 35 ha of land in Miritituba and once it has resolved a land title issue with the GOB's National Colonization and Agrarian Reform Institute (Incra), it will begin construction, which should be completed in about two years. It will build five silos with 19,000 metric tons storage capacity each. It also plans to invest in barges as well as crushing facilities in Santana, AP. Soybeans which will be transshipped from CIANPORT operations will come from Lucas do Rio Verde, Sinop, Nova Mutum and Sorriso, all in MT. U.S. multinational Bunge has already built and operationalized silos which are supporting its operations in the port of Vila do Conde (please see below).

CIANPORT investments together with other investments in Miritituba and Santarenzinho, 8 kilometers to the north of Miritituba, located in the municipality of Ruropolis, will spur the planting of soybeans in degraded pasture land in southern PA, which is located alongside or close to BR-163. One obstacle to agricultural expansion is that many of the growers there do not have titles to their land. Incra is reportedly working on this issue and will, per post contacts, be finalizing thousands of land titles later this year. There are 360 kilometers between Miritituba and the state line which separates MT from PA, 180 kilometers of which are paved. CIANPORT representatives affirm that slowly but surely, pavement of this stretch of BR-163 is being completed. Currently, it takes about 22 hours for a truck to drive from Sinop, MT to Miritituba.

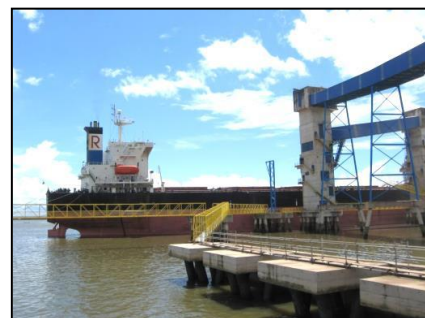
When investments are completed in Miritituba and in other ports to the north, MT growers will accrue over 30 percent in transport cost savings. The distances between Sorriso, MT to the major southeastern ports of Santos, SP and Paranagua, Parana (PR) are 1,950 and 2,100 km, respectively. The distance between Sorriso and Miritituba is 1,100 kilometers. At the same time, the GOB's environmental agency, Institute of the Environment and Natural Resources (Ibama) has been stepping up its inspections in the area.

CIANPORT and other companies that are setting up terminal operations in Miritituba have reportedly negotiated agreements with the Municipality of Itaituba to invest in schools and the infrastructure of the Municipality of Itaituba. Even so, there is reportedly apprehension among some Itaituba residents about the possible negative impact of the investments in Miritituba as well as possible negative consequences of the mega-investment in hydroelectric dams 50

kilometers from Itaituba, whose construction is supposed to begin in 2015.⁵

Port of Vila do Conde, PA

U.S. company Bunge, in addition to its operations in Miritituba, earlier this year, inaugurated a major export platform in Vila do Conde, about 35 kilometers from



TERFRON Port at Vila do Conde

Barcarena, PA, close to Vila dos Cabanos and Vila de Itupamena. This is an area of PA whose infrastructure had already partially been developed by major international aluminum exporters.

The Bunge investment in Vila do Conde was rolled out over a number of different phases. The first phase began in 2003 and in 2011, the construction of the Northern Frontier Terminal (TERFRON) began on a site which encompasses 350 ha. TERFRON was inaugurated by Brazilian President Dilma Rousseff in April 2014 when the first ship was loaded with 60,000 tons of soybeans.

TERFRON has two storage terminals, each of which has a capacity of 70,000 tons. 1,500 tons can be loaded per hour. The draft of the river at the Bunge terminal is 12.5 meters. Soybeans are barged up from Miritituba with the barging service provided by Uni-Tapajos, which is a joint venture between Bunge and Amaggi. There are 40 barges, each of which has a capacity of 2,000 tons. When product arrives at TERFRON, it first goes to storage and then it is discharged to awaiting vessels. There are two berths for barges and one berth for the vessel. The draft where the soybeans are loaded onto the vessel is 20 meters. It takes 4-5 days to load a vessel, after which it travels 200 kilometers downriver to the ocean. The maximum size of a vessel that can be loaded at the Bunge terminal is 60,000-68,000 tons.

For 2014, export capacity is estimated at 2 million tons with the expectation that this volume will double in 2015. With the operationalization of TERFRON, soybean production is on the upswing in PA, with area planted in the Municipality of Paragominas having increased from 35,000 to 73,000 hectares. TERFRON is about 270 kilometers from Paragominas.

Port of Santana, Amapá (AP)

The port of Santana is located about 25 kilometers to the west of Macapá, the capital of Amapá (AP) state. Macapá is strategically located on the Equator, close to the mouth of the Amazon River. The Macapá-Santana metropolitan area has a population of around 500,000 inhabitants; AP's total population is close to 670,000. In its northern reaches, AP borders French Guiana and part of Suriname. To the west, it is contiguous with Pará. Prior to achieving statehood in 1988, AP was a Brazilian territory. The economy has historically been based on public sector employment and transfer payments, mining, fishing, and agriculture. 73 percent of AP's land



is preserved, occupied by national forests, indigenous reserves, and military installations.

The port of Santana was inaugurated in 1982 and was administered by the Para Port Authority (“Companhia Docas do Para” [CDP]) until AP achieved statehood in 1988. It is currently overseen by the Santana Port Authority (“Docas de Santana”- DS). Given the continental size of Brazil and the location of AP, the port of Santana is closer to Miami (2,494 nautical miles) than it is to the port of Santos in Sao Paulo state (2,564 nautical miles).



Port of Santana – docked ship



Port of Santana - storage



FAS Brasilia staff met with DS personnel as well as CIANPORT representatives, who are making some major investments in the port of Santana as well as on the island of Santana (“Ilha de Santana”). Vessels of up to 45,000 mt can call on the port of Santana. CIANPORT is building three terminals at the port of Santana, each with a capacity of 18,000 tons. The first terminal was inaugurated by the governor of AP earlier this year. Growers in MT are closely following the CIANPORT investment project, which includes the construction of a crushing plant on the island of Santana, with an estimated daily capacity of 3,000 mt. Again, the concept is for soybeans to be trucked up from MT via BR-163 to CIANPORT’s facilities in Miritituba, loaded onto barges which will then proceed to the port of Santana. From there, product will be offloaded, stored in CIANPORT terminals and finally transferred to ocean-going vessels and exported. Exports over coming years are estimated at 500,000 mt (2015), 2 million mt (2016), and 2.7 million mt for 2017.

Agricultural zoning for AP was recently completed by Embrapa Amapa and Embrapa Amazonia Oriental. Per this mapping, AP has around 1 million ha of tropical savanna (“cerrado”) of which 175,000 ha can be used for agriculture and 70,000 ha which can go into livestock production. These numbers exclude close to 250,000 ha of tropical savanna, part of which is currently used for the production of eucalyptus. Post contacts affirm that when the available land zoned for agriculture is placed under production, the impact on the economy will be close to 20 percent of AP’s gross domestic product (around R\$2 billion which is roughly equivalent to US\$770 million at today’s exchange rate). Among commodities that will be able to take advantage of excellent rain and soil conditions are soybeans, corn, and beans (“feijao-caupi”). In 2012, 2,400 ha, overall, were

cultivated per Embrapa Amapa, and for 2015, Embrapa Amapa estimates that this total for overall agricultural

production could increase to 20,000 ha. Embrapa Amapa is working to develop a protocol of best agricultural practices for AP's tropical savanna and is coordinating with Embrapa "Cerrados" to develop a soybean cultivar which is best suited for AP. Embrapa interlocutors opined that this cultivar could also do well the tropical savanna of Roraima (RR).

Soybeans are planted in March and harvested in July. Post grower contacts believe that once improvements have been made to the port of Santana, soybean production, which takes place as close as 50 kilometers from Santana, will increase rapidly. Per Embrapa, total soybean production for 2012 was 4,200 tons with yields of 2.45 mt per ha. For 2013, Ministry of Agriculture, Livestock and Food Supply (MAPA) authorities estimate that 15,000 tons of soybeans were grown in the tropical savanna of AP with yields per ha of 2.85 mt. Production was shipped to Belem, PA where beans were crushed. In addition to their exportation, soybeans produced in AP will be crushed. Soybean meal will be used to produce feed which will stimulate the development of fish and fresh-water shrimp farming.

One of the constraints which growers in AP are facing is the high cost of seed and agricultural inputs. Other constraints relate to difficulties of regularizing land titles and the obtaining of environmental licenses, which need to be renewed annually in AP. Outside of economic constraints, post contacts identified the need to invest in job training programs in Santana since much of its population has a low level of education. In the opinion of these contacts, companies which want to maximize their success will need to invest in social corporate responsibilities projects. Despite the foregoing issues, growers are optimistic about the future of oilseeds and grain production in AP.

BR-156 and the Oiapoque Bridge

Another stimulus to agriculture and food production in AP will be the completion of the of federal highway BR-156 and the inauguration of Oiapoque Bridge. BR-156 connects Macapá to the northernmost portion of AP, Oiapoque. The Oiapoque Bridge, which traverses the Oiapoque connects AP with St. Georges, French Guiana and potentially with markets further to the north (e.g., Suriname, Guyana, etc.).



paving
the
River,

There are 595 kilometers between Macapa and Oiapoque, 120 kilometers of which, beginning 50 kilometers outside of Oiapoque, are unpaved. Winter rains in 2014 were particularly heavy and for a period of weeks, it took up to two days to go from Oiapoque to Macapa due to the poor condition of BR-156. Post staff travelled



BR-156 road conditions

the length of this highway and encountered precarious stretches of road, much of which penetrated a series of indigenous reserves.

The construction

of the Oiapoque Bridge, a joint venture between the Brazilian and French governments, was concluded in August 2011. This cable-stayed bridge of 378 meters, which reportedly cost R\$71 million (around US\$35 million), is not yet operational and to cross the river, one must avail oneself of small boats (“catraia”) to make this journey.

On the French Guianese side of the Oiapoque Bridge, everything is ready for the bridge to be inaugurated and has been for many months. On the Brazilian side, Federal Tax authorities (“Receita Federal”) hope to open up a temporary customs operation by the end of 2014. Before the Oiapoque Bridge can be inaugurated, however, a bilateral agreement between the Brazilian and French governments needs to be concluded and signed. Government agricultural authorities will also need to negotiate protocols allowing for the trade of fruits, vegetables, and meat.



Oiapoque Monument commemorating Oiapoque as the beginning of Brazil.



Oiapoque Bridge, viewed from a “catraia”

The
opening
of the

Oiapoque Bridge will stimulate commerce and one plan which has been offered is to establish a “free-shop” zone on both sides of the river. The bridge opening will clearly stimulate tourism from both the Brazilian and the French Guianese sides. At present, it costs 50 euros (around US\$40) to have one’s car barged from one side of the river to the other. With the opening of the bridge, this expense will be greatly reduced. AP would potentially be able to export value-added agricultural products to food-deficient markets to the north. At the same time, per post contacts, the French may find it more cost effective to ship their products from France to Santana and truck them up to French Guiana, instead of using the port facilities available to Cayenne, French Guiana’s capital.

Once the bridge is open, MAPA inspectors will be occupied in preventing the entry of plant and animal diseases. MAPA is already investing many resources in keeping the carambola fruit fly, which entered AP from French Guiana in 1996, contained within the state. MAPA contacts confirmed that if the carambola fruit fly were to make its way to mainland Brazil, losses in Brazilian fruit exports would amount to billions of dollars. MAPA officials also stressed that Brazilian and French government authorities will need to establish a permanent working group to address unfolding issues.



Acre State

Acre (AC) state is located in the extreme southwestern region of northern Brazil. It borders Rondonia (RO) state to the east, Bolivia to the southeast, Peru to the south and west, and Amazonas state to the north. AC, whose capital is Rio Branco, has a population of around 760,000. There are 14 different indigenous groups in AC, each one with its own language. 87 percent of AC is covered with primary forest. It, historically, has been one of the most isolated states in Brazil.

AC was the focus of rubber production in the late 19th and early 20th centuries. During the military

governments of the 1970s, the GOB began to offer tax incentives for Southerners to invest in ranching in AC to take advantage of abundant pasture land and rainfall. From the military perspective embraced strongly by governments of that era, populating far-flung AC was a national security imperative. One factor which abetted colonization efforts was that much of the land in AC was titled, differentiating AC's land tenure situation from RO and Mato Grosso (MT) states.

The Southerners who responded to the foregoing incentives enlisted their expertise with the results of making the livestock industry in AC both competitive and characterized by high quality. Today, the Acrian livestock industry is noted for its excellent genetics, high quality meat, and low production costs. Per post private sector contacts, one of AC's biggest challenges currently is to spearhead agricultural development to take advantage of the Transoceanic Acre-Peru Highway, which connects AC with the Pacific Coast of Peru, 1,912 kilometers from the Brazilian-Peruvian border. This highway, which has been open for the last two years, will enable Brazilian exporters to reduce the distance between Brazil and major Asian markets. For AC growers, it opens up to them commercial opportunities in Peru, one of South America's biggest markets.



Transoceanic Acre-Peru Highway

With regard to agriculture, private sector contacts underline that input costs are very high. For example, a ton of lime which is sold in Mato Grosso (MT) state costs close to four times as much when it is sold in AC. Per Embrapa Acre scientists, at present, outside of meat, AC is self-sufficient in very few agricultural products. While there is much degraded pasture land in AC, this land has not been evaluated and zoned for agriculture. Another major challenge is the fact that federal highway BR-364, which connects AC with RO and the rest of Brazil, is impassable 300 kilometers from Rio Branco, at a point where it is interrupted by the Madeira River. Earlier this year, winter

rains were so heavy that AC was cut off from the rest of Brazil for 42 days and 12 kilometers of BR-364 were under water. During this period, the value of Transoceanic Acre-Peru Highway was put to the test as Peruvian growers were allowed via a GOB- announced "Decree of Public Calamity", to supply the population of AC with onions, potatoes, and other agricultural products which entered AC through the border point of Assis Brasil (AC)- Iñapari (Peru). This highway is also providing local residents with a means to visit touristic sites in Peru. Per local contacts, one can travel from Rio Branco to Cuzco in a day and a half and with the opening of the highway, an increased number of "Acriano" tourists are spending vacations in Peru.

Along the foregoing lines, the current state government of AC envisions AC as a Brazilian “port of entry” for Peru. The state government has promoted and overseen the implementation of a major fish farming complex, located about 30 kilometers from Rio Branco. The complex has four partners representing the federal and state governments, the private sector, and local cooperatives. “Pintado” and “Pirarucu”, which are boneless fish, will

be
farmed
in the
largest
quantiti
es.
Target
export
market
s for
these
fish are
the
populo
us



Feed Processing Plant in Acre



Promotion of Acre's Fish Farming Industry

Peruvian cities of Arequipa and Cuzco, which will be accessed via the Transoceanic Acre-Peru Highway. Another local fish, “Tambaqui”, which has bones, will be sold, for the most part, in “Amazonia Legal”.

Fish will be farmed in different parts of AC in tanks which will be managed by members of the participating cooperatives. The fish farming processing unit will have a capacity of 20,000 mt. The entire complex should be in operation by July 2015, working at 50-60 percent capacity. Its viability will depend on the local production of soybeans and corn, which will be processed in a feed ration facility whose yearly capacity is 40,000 mt. To that end and according to state government sources, local corn production has increased over 40 percent over the last two years.

Cuiaba, Mato Grosso (MT) State

In Cuiaba, capital of Mato Grosso, Brazil's agricultural number two producer of corn, Brasilia staff met with representatives of the Mato Grosso Soybeans and Corn Growers Association (APROSOJA) and the Mato Grosso Institute of Agricultural/Livestock Institute (IMEA). FAS interlocutors



leader
and
FAS

presented an overview of agricultural development in MT and provided estimates in terms of area of future production. MT is one of Brazil's largest states but has only 3.1 million inhabitants. Forty percent of MT is constituted of tropical savanna ("cerrado"), 53 percent is represented by the Amazon biome, and 7 percent is wetland ("pantanal"). MT's comparative advantages are an abundance of sunlight, rain, and flat growing areas, access to technology, and entrepreneurial spirit. Its comparative disadvantages include its distance from major ports (e.g., Santos and Paranagua), poor quality of soils, limited skilled labor, and unpredictable changes in legislation which inject uncertainty into economic decision making.

Soybean production in MT began in 1970 with production reaching 1 million MT in 1986. In 1993, the Mato Grosso Foundation, which has conducted research on and developed soybean varieties suitable to MT soil and climate conditions, was established. In 1999, the land usage law changed so that only 65 percent of tropical savanna ("cerrado") land could be cultivated. Prior to 1999, 80 percent of "cerrado" land could be farmed. During the 2004-2006 crisis years characterized by low prices, and spread of soybean rust and land conflicts, APROSOJA was founded. While there are nine APROSOJA chapters in Brazil, only those in MT and in Mato Grosso do Sul (MS) are financed by a check-off fund.

MT produces over 30 percent of Brazil's soybeans or close to 9 percent of world production. Close to 60 percent of MT soybean production is exported. For the 2014/2015 marketing year, area planted to soybeans in MT is expected to increase from 8.4 million to 8.8 million ha with production ascending from 26.3 million to 27.7 million tons. By 2024, APROSOJA estimates that MT will produce 70 million tons of soybeans, assuming a 4-5 percent increase per year.

MT is a net ethanol exporter with shipments directed to northern states. There are 10 ethanol plants in MT, two of which are "flex"; that is, they can either process sugarcane or corn as feed stock. In the future, APROSOJA representatives asserted that all ethanol plants will be "flex".

Twenty percent of beef produced in MT is exported with feed-lot finishing on the upswing. As the use of feed lots grows, 60 percent of the land that was erstwhile dedicated to ranching can go into agriculture. At present, there are 24 million ha of pasture land in MT, with 15-16 million ha which could potentially be converted to agricultural land. From 2014-2016, 4 million ha will go into agricultural production .

APROSOJA and IMEA representatives asserted that the implementation of the Rural Environmental Register ("Cadastro Ambiental Rural"- CAR), which is mandated by new Forest Code, has been difficult. MT had already established a state-wide CAR system which required much detail than the new one. MT must now migrate the state registrations into the federal system.

Overall, though, APROSOJA and IMEA echoed the optimism of MT growers, noting that they are organized entrepreneurial. They enjoy comparative advantages vis-à-vis growers in other parts of Brazil and have political clout via Congressional farm lobby ("bancada rural").



Soybeans in Mato Grosso

the
more
CAR

and
à-vis
the

Conclusion

While in full recognition of the challenges that lie ahead, FAS Brasilia contacts expressed optimism with regard to the future. In their strong view, as infrastructural improvements in ports, waterways, and highways move forward, agricultural production in “Amazonia Legal” will become more competitive internationally and onerous transportation costs will be reduced significantly. With growers less dependent on distant southeastern ports to export oilseeds and grains and assuming commodity prices that justify their enterprise, they will make even greater contributions to Brazilian agricultural output. Increased production will come through the adoption of new technology and the maintenance of sound agricultural practices, as well as expansion of production on degraded pasture land, a phenomenon that is already underway in northern Mato Grosso and southern Para.

Given the foregoing history together with Brazilian skepticism about the benefits which will result from infrastructural expansion in the Amazon biome, civil society organizations will want assurances that Brazilian environmental legislation is strictly enforced. As the paving of major federal highways which cut through “Amazonia Legal” is completed and improvements are made Amazon ports which transform them into major export platforms, increased national and international attention will be focused on the sustainability of agricultural expansion and its impact on the environment. Brazilian private and public sector stakeholders will need to continue their close collaboration together to ensure that these changes result in the most positive outcomes possible.



FAS Brasilia Staff, from left; Agricultural Specialist Priscila Ming, Agricultural Counselor Bob Hoff, Agricultural Attaché Laura Geller touring the Port of Santana near the mouth of the Amazon River.

End Notes

1. Instituto do Homem e Meio Ambiente da Amazônia (Imazon), Instituto de Pesquisa Ambiental da Amazônia (Ipam), and Amigos da Terra Amazônia Brasileira (2014), "Amazônia e as Eleições 2014: Oportunidades e Desafios para o Desenvolvimento Sustentável", pp. 4-6, Belém: Imazon.
2. Soybean production in the state of Amapá (AP) is just beginning with product shipped to the neighboring state of Pará (PA) where it is crushed.
3. Barreto, P. and Araujo, E; "O Brasil atingirá sua meta de redução de desmatamento?" (2012), Belém: Imazon.
4. The Forest Code ("Codigo Florestal"), which was signed into law in May 2012, defines and clarifies land usage in Brazil. Per this law, which was formulated and debated in the Brazilian Congress for 12 years, 80 percent of land located in the Amazon biome must be placed in a legal reserve and a maximum of 20 percent can go into agricultural production. For land located in the tropical savanna ("cerrado"), these percentages are 35 and 65 percent, respectively. For other regions, the percentages are 20 and 80 percent, respectively. One central feature of the Forest Code is that all growers are required to enroll in the Rural Environmental Register ("Cadastro Ambiental Rural" - CAR), which lays out the percentage of land which each grower has under production, in the prescribed legal reserve, and in designated protected areas. By 2016, agricultural financing will not be available for growers who are not registered in the CAR system. Another key feature of environmental policy is the Soybean Moratorium, whose implementation began in 2006 and which will be in effect until May 31, 2016. The Soybean Moratorium, endorsed by GOB, the Brazilian Vegetable and Oil Industry Association (ABIOVE), and Brazilian and international traders, has strongly supported the improvement of governance and the reduction of deforestation in the Amazon biome.
5. "O Estado de São Paulo", June 1, 2014, p. B3.